Wild Honey Marketing Strategy:

Opportunities & Options

CAMBODIA MICRO, SMALL, AND MEDIUM ENTERPRISE (MSME2) STRENGTHENING PROJECT

Task Order No. 4

December 2009

This publication was produced for review by the United States Agency for International Development. It was prepared by Bagie Sherchand/Development Alternatives, Inc.

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Program Title:	MSME2 Project/BEE
Sponsoring Office:	USAID/Cambodia
Contract Number:	EEM-I-00-07-00009-00/04
Contractor:	DAI
Date of Publication:	December 2009
Author:	Bagie Sherchand

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Acronyms

BSP	Business Service Providers
CBCL	Cambodia Biologicals Co. Ltd.
CEDAC	Cambodian Center for Study and Development of Agriculture
CFI	Community Forestry International
FLD	Forests and Livelihood Development Organization
GTZ	German Agency for Technical Cooperation
HMF	Hydroxymethylfurfural
MSME 2/BEE	Micro, Small, and Medium Enterprise/Business Enabling Environment Project
NGO	Non-Governmental Organization
NTFP	Non-Timber Forest Product
NTFP-EP	NTFP Exchange Program
NZAID	New Zealand Agency for International Development
PACT	PADCO/Pact Cambodia Program
PET	Poly-Ethylene Terephthalate
Triple F	Fresh From Farm (a private Khmer company)
USAID	United States Agency for International Development
WWF	World Wildlife Fund

1 INTRODUCTION

This assessment was commissioned by the USAID funded MSME 2/Business Enabling Environment (MSME 2/BEE) Project in Cambodia and was carried out from November 30–December 12, 2009. The purpose of Cambodia MSME 2/BEE is to promote economic and private sector growth through support focused on specific value chains, public-private dialogue, and strengthening the public sector through targeted technical assistance. The MSME 2/BEE project also supports a component aimed at sound management of the country's areas of biological significance.

Cambodia's extremely rich natural heritage boasts six eco-regions each with extremely high biological diversity spanning across 12 provinces[1]. The six major eco-regions are as follows:

1. Cardamom Mountains (536 species of mammals, birds, reptiles and amphibians)
2. Southeastern Indochina Dry Evergreen Forests (751 species)
3. Central Indochina Dry Forests (813 species)
4. Tonle Sap-Mekong Peat Swamp Forests (447 species)
5. Tonle Sap Freshwater Swamp Forests (443 species)
6. Indochina Mangroves (528 species)

FIGURE 1: MAP OF CAMBODIA

Cambodia MSME 2/BEE project is presently active in four biologically significant "landscapes," which lie within the first two of the above six eco-regions or areas of biological importance. These four "landscapes" cut across 7 provinces (Kampot, Kampong Thom, Siem Reap, Preah Vihear, Koh Kong, Stueng Treng, and Kratie). The Cambodia MSME 2/BEE's biodiversity team is currently working with a total of 17 communities living within and around these landscapes. The four landscapes are:

a. Prey Lang (which is part of the Dry Evergreen Forests)
b. Elephants Mountains (which is part of the Cardamom Mountains)
c. Boeung Per Protected Area (which is part of the Dry Evergreen Forests)
d. Chhloung Forest (which is part of the Dry Evergreen Forests)

In year two, the project plan is to expand its reach to 7,000 people in 40 communities since all these "landscapes" are under extreme threat, either by conversion to agriculture, illegal logging, or large scale development activities such as mining and dams. The degradation and destruction of natural resources also arise due to pressure experienced by rural communities to supplement household income derived from extraction of forest products, mainly for sale but also for home consumption and survival during lean times. Many in Cambodia's rural areas depend largely on subsistence rice farming and fishing, with little left over as surplus to either tide them over during the dry season or to sell for cash based needs. When cash is required, these communities turn to backyard, traditional livestock (especially pigs, chicken, and ducks) husbandry, as well as hunting and gathering of forest products from Cambodia's heavily threatened natural resources. In Cambodia, communities are engaged in both high-value (wild animals mostly for bush meat and prized animal parts; illegal logging) as well as low-return (for e.g.

[1] Andrew Watson, September 2009. "*Biodiversity Strategy for the Cambodia MSME Project for Year 2010*." Cambodia MSME 2/BEE Project, Phnom Penh, Cambodia.

honey, wild mushroom, rattan, bamboo shoot, wild fruits, wild vegetable leaves, traditional medicines, firewood and charcoal production) forest activities. Chronic poverty and unsustainable practices impel these communities to over-exploit the surrounding forest resources as they struggle to make ends meet. With more than 88 percent [2]of the rural population falling below the poverty line of $1 per day, the value of benefits extracted today far outweighs the promise of a future high-return they may not live to accrue.

Being mindful of this "*poverty – conservation*" nexus, the MSME 2/BEE project recently finalized a strategy that places emphasis on identification of opportunities rather than on mitigation, as an approach to ensuring effective and sustainable conservation of biodiversity. The MSME 2/BEE biodiversity conservation strategy's central tenet rests on "unlocking rural growth while forging tangible linkages between improved livelihoods and sound conservation."[3] This is driven by the belief that people will become better stewards of natural resources and of biological diversity if they are able to derive tangible, primarily financial, benefits from their endeavors. A quick survey of "possible opportunities" that have the potential of providing tangible benefits to a large number of communities living around and within the four landscapes was conducted by MSME 2/BEE project in 2008. The rapid assessment narrowed on two non-timber forest products (NTFPs):

1. *Resin,* and
2. *Wild Honey*

With the NTFPs identified, the MSME 2/BEE project is applying a value-chain approach to help prepare a pathway for rural poor households in communities to benefit financially from sustainable resource use. With increased income and its concomitant multiplier effects, high levels of community participation and production could be stimulated such that the natural resource base is protected and managed as an asset versus being exploited as a public good.

However, as reported in two earlier documents[4], in the case of honey, Cambodian rural communities living within and on the periphery of these natural resources have generally been unable to participate more inclusively in formal supply chains to successfully tap consumer demand and translate that to boost incentives to sustain their asset base, both in economic and environmental terms. There are various constraints and challenges that hinder this realization: Honey is seasonal (one harvest per year); income from honey to date has been mostly supplemental; average volume extracted per household is low, estimated at less than 5 litres; honey quality is low at best; wild honey harvesting and sale continue to be village based and informal; supply chain is fragmented and informal where there are linkages, and lack information flow back to producers. Amid such challenges and with little or no support systems in place, rural communities within these landscapes have been consistently disadvantaged and have been pretty much left on their own as they struggle to sufficiently gain from enterprise or trade.

The challenge presently facing this sector, therefore, is the development of those market solutions that drive quality improvement, increase volume, inject reliability, and stimulate growth while boosting incentives to support natural resources conservation. Fortunately for Cambodia, wild honey is a fairly proven product with reasonably strong unmet demand in the domestic market. International demand for high quality honey is also on the rise; although Cambodia is far from ready to participate in this market segment primarily due to quality as well as volume issues. The sector nevertheless clearly possesses some key conditions necessary to trigger a market driven transformation of the honey value

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[2] National Institute of Statistics, 2008. "Statistical Yearbook of Cambodia, 2008." Phnom Penh, Cambodia.
[3] Andrew Watson, op.cit.
[4] Crossroads, August 2009. "*Wild Honey Baseline Survey*." Cambodia MSME 2/BEE project. Phnom Penh, Cambodia. Andrew McNaughton and Meang Sotha, May 2009. "*Cambodia Honey Value Chain Assessment*." Cambodia MSME 2/BEE project. Phnom Penh, Cambodia.

chain. However, without a market-based approach that is inclusive of the producers, sustained success will continue to remain elusive for producers as well as traders and processors.

This assignment was tasked with the responsibility of identifying market opportunities and options that offer appropriate strategies and solutions, which can contribute to simultaneously increasing household income and achieving long-term sustainability of Cambodia's natural resources.

1.1 OBJECTIVES

The overall purpose of this assignment was to conduct a rapid assessment of the various markets to begin the process of market identification and to secure a better understanding of the potential and strength of promising end markets for wild honey. A review of constraints and limitations that hindered subsector growth was also conducted to identify key areas requiring strategic intervention within the value chain to increase value chain efficiency and enhance product quality and profitability. The assignment examined key points of leverage in the value chain that could potentially be improved to increase flow of honey consistently and commercially into various identified markets. The ultimate objective of this assignment was to develop a pragmatic and commercially viable marketing strategy that can increase market pulls and enable producers and processors to gain from enterprise, while contributing to the growth of the sector.

1.2 METHODOLOGY

The three Cambodia MSME 2/BEE studies on the Honey Value chain and baseline survey provided the starting point for this assignment, offering pertinent information on the targeted subsector. The assignment primarily relied on field visits and on-the-ground discussions and interviews with professional honey hunters, honey producers associations, businesses and non-governmental organizations (such as PACT/CFI, WWF, Bethany Cares, and FLD) already engaged in assisting local communities in the areas of production, processing and marketing of wild honey in designated locations. In collaboration with the MSME 2/BEE Biodiversity team, the consultant met and discussed with other intermediaries and service providers such as distributors, retailers, wholesalers and potential buyers of wild honey products. The assignment started with meetings and interviews with key market players such as Lucky, Pencil, Paragon, Sydney, Thai Hout, CBCL, Triple F, CEDAC, and market informants in Phnom Penh's Capital Market and Russian Market; markets in a district town (Srea Ambal district) as well as in popular roadside bus-stops in Srea Ambal were also assessed to get an understanding of market demand, trends and buyer behavior. These interviews provided anecdotal evidence on how wild honey is perceived in the domestic market. The meetings also provided some useful information on the major constraints that challenge producers, processors and buyers. Results from all these interviews, discussions, consultations and interactions were analyzed and used as the basis of this report.

1.3 ORGANIZATION OF THE REPORT

The report is organized as follows: The introduction is followed by a section that provides an overview of Cambodia's wild honey subsector. The section also offers discussions on the various actors and participants that thus far drive the honey value chain in the country. The overview section also provides some detail on the status of honey production, consumption and market size. This section is followed by a chapter on the constraints and challenges bedeviling the honey sector and presents some details on issues that handicap value chain growth. Section four provides a review of the market assessment for Cambodian wild honey. The report closes with a presentation of the marketing strategy framework developed to help the honey sector take advantage of opportunities open for exploitation. This section also discusses various support services and targeted technical interventions required to enable the sector to maximize opportunity through increased production, improved efficiency and expanded sales.

2 HONEY SUBSECTOR OVERVIEW

Cambodia's honey subsector depends largely on honey hunting rather than on beekeeping. The traditional practice of honey hunting in Cambodia's rural areas continues to dominate honey production. Honey hunting entails scouring forests and mangroves, every season, for nesting bee-colonies to be taken by anyone who finds it first. Given this practice, honey production remains a predominantly opportunistic activity, providing only supplemental income for rural households.

Beekeeping or honey production based on managed care of bee-colonies for commercial purposes is still a relatively "new" practice, espoused only recently by a few households trained by NGOs through development assistance programs. Beekeeping in Cambodia is made difficult not by lack of will among rural households, but primarily because of the species of honey bees found in the country.

Cambodia is home to five species of honey bees: *Apis Dorsata* (giant honeybees), *Apis Florea* (dwarf honey bees), *Apis Cerana* (Asian hive-bee), *Trigona* (stingless bee), and *Apis andreniformis*. According to a recent report[5], of the five, only two (*Apis Dorsata* and *Apis Florea*) have economic value, in that these two species produce the largest volume of honey compared to others. Of the two, *Apis Dorsata* are the most populace in Cambodia[6] and produce more honey than the *A. Florea*. However, both species are wild, migratory, and difficult to keep in box-hives unlike the tamer European *Apis Mellifera*. The closest to domesticating *Apis Dorsata* has been through "inducements," by creating or "managing" artificial nesting sites called "rafters" that mirror proper nesting conditions, in terms of suitable bee forage, and nesting structures such as branch thickness, height, depth, angle, location, and tree species (Figure 2).


Figure 2: Rafter

Because nesting sites still have to be in the wild, harvesting from "induced" nests is also difficult, particularly in the wet season, when most harvesting is carried out, especially in the lowland areas such as Srae Ambal. Given the difficulty of locating and harvesting wild honey, honey production is primarily a male activity in Cambodia. Harvesting wild honey is relatively easier in the uplands such as Ratanakiri and Mondolkiri since the peak honey production season there coincides with the dry season.

World Wildlife Fund (WWF) is currently working with communities in the Mondolkiri area to introduce and expand the number of "rafters" to help increase income for rural households living around and within the *Eastern Planes Landscape*. In the lowlands, PACT, another NGO, is actively introducing the same "rafter" concept in communities such as Prang, Top Cheng, and Chamkar Kroam in Srae Ambal. In both areas (lowland and upland), "rafters" are a new approach to honey production. Crossroads'[7]recent (August 2009) report indicates that in the lowlands, about a third of the households trained in beekeeping have begun using rafters to increase the number of nesting colonies for increased honey production. However, the number of rafters is not yet large enough to produce the volumes that attract the attention of commercial companies.

Another factor influencing the multiplication or lack thereof, of rafters or honey production through increased honey hunting activities, is and has been the farm-gate price. Farm-gate price of US$1.75 per KG (roughly 10,000 Reil for 1 liter) for liquid honey generally offered by traders and roving collectors has not motivated honey hunters to increase production sufficiently enough for honey to be viewed as a

[5] Andrew McNaughton and Meang Sotha, May 2009. "*Cambodia Honey Value Chain Assessment*." Cambodia MSME 2/BEE project. Phnom Penh, Cambodia.
[6] Crossroads, August 2009. "*Wild Honey Baseline Survey*." Cambodia MSME 2/BEE project. Phnom Penh, Cambodia.
[7] Ibid

significant income source. However, more recent changes in both price (US$4/KG in 2007/08) and training, offered by NGOs in not only rafter construction, but also in such areas as community mobilization to establish community honey producers association linked to commercial buyers, seems to have stimulated interest in increasing honey flow. But given the infancy of the “rafter” expansion program honey production remains relatively small. Table 1 presents recent production figures tracked by several NGOs over the past 3 years for a handful of communities. Production for both Prang Village and Taup Ching dropped in 2009 because one of the key buyers linked to these communities has temporarily stopped processing. The production in Mondolkiri is responding to market linkages and better price. The NGO working with these communes, projects that if all 5 communes continue at the current pace, the total production could easily be around 28.5 tons in the not too distant future.

TABLE 1: WILD HONEY PRODUCTION ESTIMATES (2007-2009)

Community	2007	2008	2009
Prang Village		570	147
Phnom Taup Ching	832	512	-
Mondolkiri (2 communes)		570	2,280
TOTAL (in Kgs.) =	832	1,652	2,427

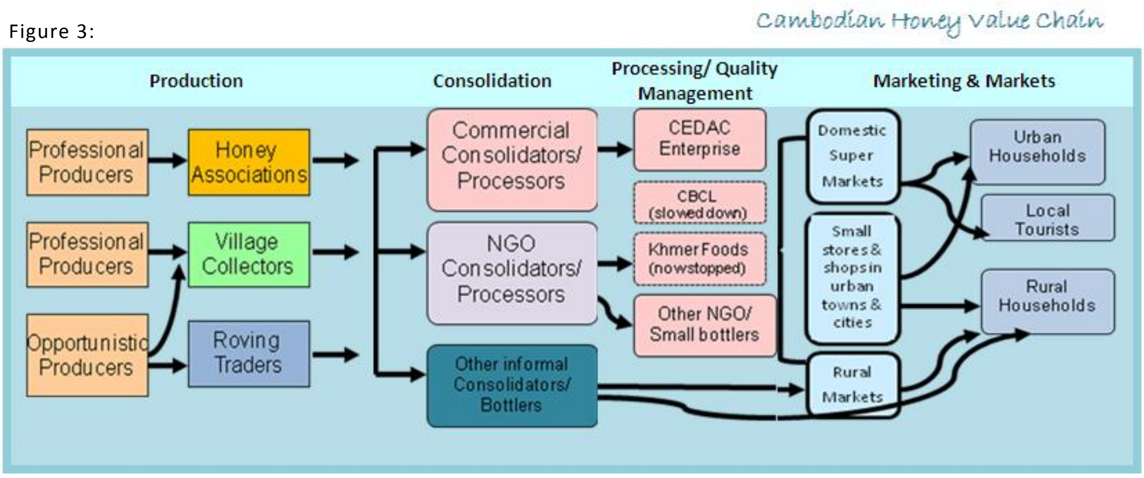
Source: Field interviews, December 2009.

Estimates of the country’s overall honey production, however, are hard to determine. There are no reliable or official data sources available, but recent discussions with a few active NGOs, commercial companies, and communities suggest that annual production could be around 40-50 tons or less when combining both wet and dry seasons across the country.

Cambodian honey is largely consumed domestically given that, according to several retailers, demand remains unsatisfied. Because of honey’s perceived medicinal properties, it is commonly believed that every Cambodian household, both rich and poor, stores at least one bottle (500 ml or 0.71 Kgs) of honey per year. If this assumption were to be true for only half (50%) of the 515,685 households[8] in Phnom Penh and Kandal provinces, Cambodia’s richest provinces, the total estimated domestic production would be meeting only 27% of the total estimated demand of 184MT. If on the other hand, the assumption were to be applied across Cambodia, to only a fourth (25%) of its 2.8 million households[9], the country’s honey production (of 50MT) would be satisfying only a tenth of the total estimated demand of 500 MT per year. In short, the numbers indicate that there is strong internal (domestic) demand for honey, which needs to be met.

Cambodian honey is presently marketed mainly through 3 channels from the farm-gate forward. A honey value chain mapping (Figure 3) charts the flow from production to consumer in this sector. As noted in Figure 3, honey in Cambodia is sold in three principle end markets: Formal retail chains such as

Figure 3:



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[8] National Institute of Statistics, 2008. *Op.cit.*
[9] Ibid.

supermarkets and convenience stores; small shops, stores, and informal markets in urban areas; and rural informal markets where rural as well as urban households purchase their honey either directly from retailers or from roving traders/collectors, who simply bottle the honey in recycled water bottles and sell at trading centers or small shops. High-income consumers in urban centers and tourists tend to purchase their honey from supermarket chains and convenience stores.

In all these markets, honey hunters i.e. smallholders, play a central role as suppliers, since there are no known commercial-scale beekeeping operations in existence in the country Smallholders generally supply raw honey, either liquid or in combs directly to traders and collectors. More recently, the producers have been selling slowly through their honey producers association to commercial buyers and NGOs. Cambodian honey harvested by smallholders is entirely wild, including those harvested from rafters installed in forests. Per MSME's August 2009[10] report, a large percentage of the honey-hunters sell their wild honey to traders who pick up the honey from villages. This is followed by those who sell their product through village committees, and also via roving collectors who travel through rural communities buying small quantities to bulk up later to supply the local rural markets or sell to other wholesalers. Roving traders and collectors typically buy the largest share of the honey production because they pay on the spot and buy virtually at the farm-gate, saving travel and transport costs for rural households.

With the advent of NGOs in the sector, however, honey consolidation and buying has also been taking place through the same NGOs that provide technical assistance. Part of the technical assistance NGOs have provided is linkage to markets, whereby a commercial honey processor is invited by the NGO to a community to help establish a "preferred buyer" relationship. These commercial buyers consolidate the honey through the village/community honey producers' association, who act on behalf of the honey-hunters. Once consolidated, the honey then makes its way to the processors in city centers such as Phnom Penh. Of the three known commercial buyers (CEDAC, CBCL and Khmer Foods), only CEDAC remains active at present in pursuing the "preferred buyer" relationship. CEDAC currently maintains this buyer-seller "relationship" with several communities, both in the lowlands and uplands, buying from communities in Mondolkiri and Prang for example. While CEDAC is the most active, they are relatively "new" to this approach (started establishing community links in 2007/08 for honey) but CEDAC management is keen on making a success at it by adding more communities from both the upland and lowlands to bulk up their supply base for the full year.

CEDAC's honey operation has been expanding year on year (albeit from a small base of roughly 600 kgs to the current 2000 kgs) to keep up with increased sales of its processed and bottled honey through its own 5 stores and also through supermarket chains such as *Lucky*, *Pencil*, *Thai Hout*, and *Sydney*. CBCL on the other hand has slowed down its honey business, halting its purchasing temporarily in 2009 after 2 continuous years of active buying. Like CEDAC, CBCL worked directly with the communities to establish a relationship, but CBCL went beyond simply providing a guaranteed market. For over 2 years, CBCL worked with community honey hunters in, primarily, Taup Ching community to build producer capability by providing them training on beekeeping, rafter building, and improving honey quality. However, when communities are unable to produce the agreed upon volume or quality, or when producers exercise their temptation to side sell through various levels of intermediaries, these become disincentives for "relationship building" or private investment. A third company, Khmer Foods, has purportedly closed down its honey processing operation.

Honey processors in Cambodia face significant challenges. First, the volume being produced by each household is very small. It is estimated that on average a relatively good honey hunter produces or harvests only 5 liters (7.125 kgs) per season or year. While top-notch, highly skilled professional honey hunters are known to harvest as much as 38Kgs a season over four months, they are few and far

[10] Crossroads, 2009. *Op.cit.*

between. The majority of those opportunistic households harvest, on average, about 3 kgs per season or year. Even when several of these honey hunting households mobilize into an association to bulk up their honey, the consolidated volume often is not large enough to justify the logistical and marketing costs, particularly when the farm-gate price is very high, cutting into the margin. Further, the trading practice that requires on-the-spot cash payment also makes it difficult for commercial processors to gain from scale, especially in an environment where the cost of working capital, if and when accessible, is high. All these upstream inefficiencies stack up to render processors to operate inefficiently, resulting eventually in a high priced product.

Cambodians complain about the high price of honey in local markets since it effectively taxes them. A rapid assessment of consumers and retailers (supermarket and store managers) in Phnom Penh, undertaken as part of this study, indicates that both consumers and retailers regard Cambodian honey to be “expensive.” But, retailers did mention that there is a short supply of domestic honey given that there aren’t that many processors that have the capacity to supply the stores and fully stock the shelves in the country. They further voiced their concerns about local honey quality or lack thereof. Consumers on the other hand appear to have responded by voting with their feet: buying the same product from competing companies, and in the case of Cambodia, from competing countries that offer better quality for less money. To satisfy consumer sentiments and preferences, the 5 large supermarkets (Lucky, Pencil, Paragon, Sydney, and Bayon) and Thai Hout, a well-stocked convenience store, together import on average an estimated 26.2 tons of honey per year. These supermarkets and convenience stores cater to the higher-income households in Phnom Penh.

Table 2 below illustrates the retail price difference between Cambodian honey and imported honey being sold in the supermarkets and convenience stores in Phnom Penh.

TABLE 2: HONEY RETAIL PRICE IN VARIOUS SUPERMARKETS, PHNOM PENH

Product Name	Country of Origin	Unit Pack Size	Average Unit Price in US$
CEDAC Honey	Cambodia	425 ml or ~606 gms	$7.20
Sue Bee Clover Honey	USA	680 gms	$7.90
Fengxian Tiar Honey	China	500 gms	$3.15
Thai Erawan Pure Honey	Thailand	780 gms	$4.30
Thai Erawan Pure Honey	Thailand	500 gms	$3.10
Capilano Natural Honey	Australia	375 gms	$3.60
Chun Ran Fang Honey	China	500 gms	$2.10
Chinese Honey	China	500 gms	$1.60
McMahon’s Pure Honey	Australia	500 gms	$4.60

Source: Supermarket Store Visits, December 2009.

Retailers comment that imported honey products sell faster than domestic honey. However that said, retail outlets (whether supermarkets or convenient stores) are quick to point out that they always sell all their stock of domestic honey when they carry them. The small volume of domestic honey being retailed through supermarkets makes it easy for them to clear their inventory quickly, especially when supermarkets such as Lucky alone have a high daily in-store traffic flow of shoppers. One of the largest local supermarkets in Phnom Penh, for example, gets no less than 2,000 shopper visits per store per day. However, quality concerns remain strong for many retailers and consumers alike.

Some retail managers strongly believe that good quality, domestic honey that is reasonably priced could easily compete with imported honey given that consumers have a high regard for local wild honey due to its perceived medicinal properties and traditional use. However with an annual production of less than 5,000 bottles (425 ml size) of honey bought from communities that have little knowledge about quality, CEDAC, the only remaining operational honey processor in the formal sector, alone will not be able to satisfactorily meet the needs of the supermarkets in Phnom Penh, let alone the country.

3 Constraints and Challenges

Demand for local wild honey remains unsatisfied in Cambodia. Yet, honey processors, consolidators, and producers are struggling at every segment or level of the honey value chain, unable to profitably translate market demand or opportunity into business and sector growth.

Growth of the honey sector in Cambodia is constrained by many factors. However, underlying virtually all of these is one key factor: ***Lack of sufficient or commercial volume***. Lack of volume or production in Cambodia is driven by two challenges: (1) ***Insufficient rafters***, and (2) ***Lack of producer confidence or trust in buyers***. Producer trust or confidence on the other hand embodies many issues, which touches on many areas, such as: is the buyer or will the buyer offer the "best" farm-gate price; is the buyer dependable; will the buyer honor a relationship based on transparency and fairness; and finally are the honey markets strong and stable enough for producers to invest their time in harvesting, which requires hard work. While all these issues may not be articulated by the producers, it influences how they manage their trade-offs, and respond to what they perceive as "signals." To date, producers have viewed farm-gate price to be "low," traders to be capricious, and markets to be unstable since they feel that they will be unable to offload large volumes with certainty and ease. Meanwhile, the daily wage rate of 10,000 Riel at a rubber facility or a sugarcane factory is roughly the same as the price offered for a liter of honey, which requires strenuous work and many hands to harvest. Whether or not, producers seek and get wage employment, the wage rate is seemingly being used as a reference point per one NGO. Accordingly, production for a large majority of the honey hunters has been determined by the amount they require to sufficiently cover for a few cash needs and for own household consumption.

Cambodian honey value chain is characterized by large numbers of intermediaries, particularly roving traders and collectors, who sell to the next wholesaler in the nearest rural markets, who then passes on the product with a markup to the larger traders, who ply larger district or even urban markets. Markups or margins extracted by traders in Cambodia can range anywhere from 10% to 150%. Even the village based honey producers association in Prang earned a 128% profit margin in 2008 for serving as a consolidator and transporter of honey to a processor in Phnom Penh. Many of these intermediaries add little value, particularly in a product like honey, thereby rendering the marketing chain to be inefficient. The inefficiency of such a system is further hampered by high logistical costs and the low quality of the products. Inefficient marketing systems eventually end up taxing producers by putting downward pressure on the price they receive, while making the product more expensive for consumers by increasing retail prices. This is the scenario playing out in the Cambodian honey value chain.

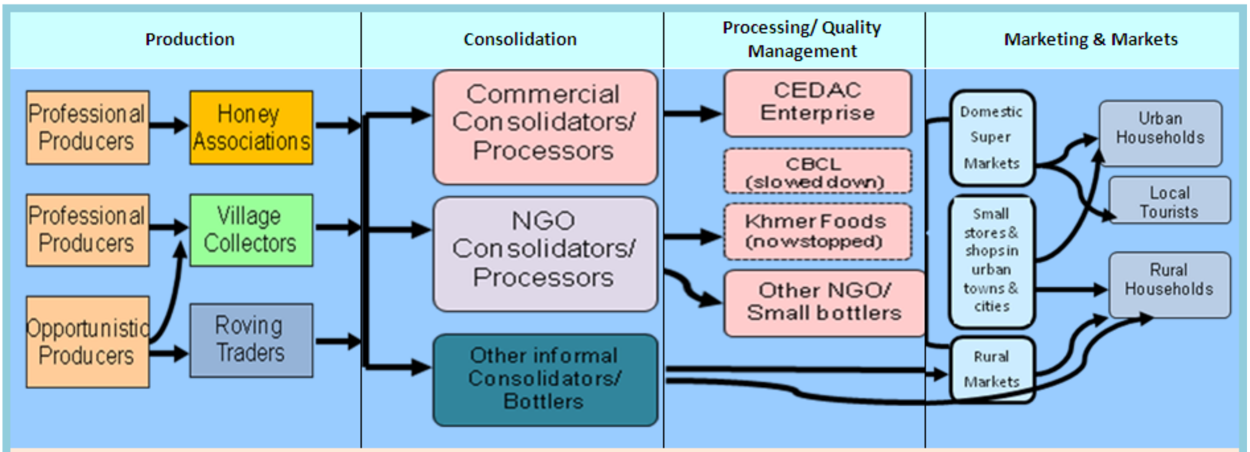
As a result, producers are not increasing their volume and consumers are uneasy about buying more than they can afford, regardless of the amount they desire. In between, serious honey processors in the formal sector are struggling with their low processing capacity utilization rate, high raw material costs, and thin margins, and are diversifying to other product lines to remain viable. Or, the processors go out of business, which is also occurring in Cambodia. In the case of CEDAC, honey is one of many products they consolidate and market. As such the honey product line within CEDAC relies on the strength of the organization, in terms of distribution network, labor and overheard. Raw material costs (honey and packaging materials) of their honey product alone make up 62% of the retail price, without factoring in the costs of labor, overhead, transportation/ handling costs, profit margin for CEDAC and merchandizing/retailing cost for the supermarkets. In the same example, honey costs alone comprised 54% of the supermarket retail price, which is far out of the industry norm/standard generally applied by food processing and manufacturing companies in more developed countries. Were CEDAC to be a one product (honey) company like many in Cambodia, the pricing structure it is supporting would have been impossible to sustain as a business. All these dynamics place a dark cloud over firm-level competitiveness (particularly in light of imported brands), serve as disincentives, and impede growth of the business and the sector as well.

Even if the marketing chain were to be fairly efficient, the low quality of honey generally available at the producer level add significantly to processing costs due to high percentage of wastage and upgrading costs. Much of the quality issues at the producer level focus around harvesting methods, harvest timing, and honey extraction methods. Honey hunters are an impatient lot; once they locate a comb they harvest it or else they risk losing it to others. Waiting for the honey head to ripen is a luxury many are unwilling to accept in rural areas. This results in harvesting unripe honey, which is highly susceptible to fermentation given the climatic conditions in Cambodia. Fermentation occurs when honey has high moisture content. Honey is hygroscopic, so proper storage is also key to quality. The US for example will not import honey with moisture content over 20%. Many NGOs working with such communities have supported smallholders to construct honey drying houses in order to lower moisture to prevent honey from going bad. In addition to moisture content, buyers also look at HMF levels (to detect if honey has been heated), sugar content, as well as other factors that affect storage damage, adulteration, genuineness, cleanliness and color. Therefore a system of traceability and quality management and control is of utmost importance when producing honey for the higher end markets.

Poor quality of product, inadequate supply of quality raw honey, poor packaging, absence of proper technical information, and poor infrastructure are examples of some external and internal constraints contributing to high transaction costs and eroding profitability. External factors such as poor infrastructure and lack of access to affordable finance play their part at the macro level in inhibiting industry competitiveness and growth. Other factors such as quality, appropriate packaging materials, standards compliance, and forms of market organization, are constraints internal to the industry and many of these can be resolved with better coordination and collaboration at the industry and firm level.

The summary list (Figure 4) below presents some key constraints and challenges, for each segment of the value chain, that have been identified by most value chain participants in the field as being the most critical and most important at weighing the industry down, and handicapping the sector's growth and development. The summary focuses predominantly on those constraints that are "internal" to firms and producers. The objective is to look at bottlenecks hindering productivity and profitability in order to intervene in the most critical points that can yield high performance and positive change.

FIGURE 4: CURRENT HONEY VALUE CHAIN ACTORS' CONSTRAINTS AND CHALLENGES--A SUMMARY



Key Constraints and Challenges – Non-Exhaustive List

Production	Consolidation	Processing/ Quality Management	Marketing & Markets
- Low Volume due to low yield, migratory nature of the Dorsata species, beekeeping knowledge low, & perceived low farm-gate price. - Low honey Quality due to limited understanding of quality. - Beekeeping not viewed as a business or serious income source - Lack technical training and information on management, finance, storage, quality, pricing, and how and when to harvest. - Absence of proper organization to take advantage of economies of scale. - Lack of traceability - Low Producer Confidence/Trust in buyers.	- Communities dispersed & unable to group sizeable volume increasing costs. - Logistics cost high - Communication cost is high - Pricing unrelated to quality - Lack of linkage with stable buyers - Lack of access to trade finance; unable to buy large volumes - On-the spot buying leading to purchase of small volumes - Lack of Contract enforcement encouraging side-selling - Fractured supply chain; disincentive for volume increase.	- Lack of modern technology and technical knowledge - Lack of quality & cost effective packaging and labeling. - Lack of access to finance to build capacity & modernize. - Lack of working capital at reasonable rates to purchase commercial volume. - Processors not taking advantage of market; discouraged by high collection & product costs. - Processors not paying much attention to consumer signals & buying behavior.	- Honey Industry not organized to gain from collaboration - Industry lacks strategy leading to industry working at odds - High rejection of low quality product leading to lowering profitability - Fragmented marketing leading to market underdevelopment. - High price of local honey eroding access to markets for increased sale. - Weak & inefficient marketing channels made worse by speculators and traders who add little value - Unaware of world honey market trends, competition, and developments.

4 MARKET ASSESSMENT

Cambodia's rich natural heritage favors several areas in the country for wild honey production. Mondolkiri, Ratanakiri, Kampong Thom, Koh Kong, Kratie, Preah Vehir, Siem Riep, among many others are some provinces considered to be highly favorable for honey production. Even though, to date, the country-wide production estimate is less than 40-50 tons (a significant portion of which barely make it to the cities), the potential to increase beyond this quantity is present if appropriate and timely assistance is focused on increasing volume, improving quality, and expanding stable markets.

Fortunately, in Cambodia, wild honey is a proven product with strong unmet demand in the domestic market. International market for high quality, unadulterated honey is also on the rise, especially given the current environment where many importing nations within the EU and the US are experiencing a deficit due to import restrictions on some exporting nations, particularly China, and also due to the effects of colony collapse disorder (CCD) in honeybees and beekeeping businesses. That said, Cambodia is far from ready to supply the international markets primarily due to quality as well as volume issues.

As mentioned in earlier sections, given the perceived medicinal properties of honey and traditional uses, demand for honey is strong in Cambodia. It is commonly believed that Cambodians store at least one 500 ml of honey per household per year. Further as also mentioned, if this assumption were to be true for only half (50%) of the 515,685 households[11] in Phnom Penh and Kandal provinces, there would be need for at least 184MT to meet this demand. If on the other hand, the assumption were to be applied across Cambodia, to only a fourth (25%) of its 2.8 million households[12], the estimated demand would be 500 MT per year. While the preciseness of the figures may be debatable, it does however point to the key issue: that domestic demand is strong and could be real if price matched the consumer's willingness to pay.

This same sentiment was also voiced by several retailers, who believe that domestic honey price needs to come down from the current retail price of US$7.2 for 425 ml, which translates into roughly US$11.89 per KG. A rapid market assessment in Phnom Penh indicated that consumers also regard local honey price to be "expensive." However, several supermarket managers suggested that if domestic honey were to improve its quality, and sold at a reasonable price, it could compete with imported honey. The five largest supermarkets in Phnom Penh import roughly around 26.2 tons of honey on an annual basis (Table 3) to meet their shoppers demand for honey only in and around Phnom Penh. The 26.2 tons excludes imports into other major towns and cities across the country.

TABLE 3: HONEY IMPORT ESTIMATES BY SUPERMARKETS, PHNOM PENH

Supermarket Name	Total No. of Stores	Total Ave. Vol. Sold per Year	Imported from
Lucky	5	10.3 MT	China, Thailand, Malaysia, Singapore, Australia
Pencil	2	4.4 MT	Malaysia, Singapore, Australia, China, Thailand
Paragon	1	5 MT	China, Australia, Thailand
Sydney	1	0.4 MT	China, Thailand
Bayon	1	0.8 MT*	-
Thai Hout	1	0.8 MT	Malaysia, Australia, China
TOTAL IMPORTED		**26.2 MT**	

Source: Supermarket Store Visits, December 2009; * = Extrapolated

With annual imports amounting to about 26 tons to meet the demand of consumers who are willing to pay a reasonable price for quality and convenience, the local supermarkets offer the best and easiest market opportunity for Cambodian domestic suppliers. NGOs and development assistance efforts

[11] National Institute of Statistics, 2008. *"Statistical Year Book of Cambodia, 2008."* Phnom Penh, Cambodia.
[12] Ibid.

should be targeting this market segment as the primary "end market" for table honey produced by those communities working hard to build volume and improve their livelihood.

While the domestic supermarket chains and convenience stores would be targeted for table honey, there is also a potential market for mead or honey-wine, produced using hygienic, food grade facilities. Honey wine is an alcoholic beverage made from honey. It is said that Cambodians have a taste for such a product, and have been consuming honey-wine in some form or other in the country for a long time. However, what is available and sold as honey-wine (which is mostly bad honey turned into a fermented drink) is not of good quality, in terms of product quality, process quality (in the entire wine-making process), and packaging quality. Quality management will be fundamental in making honey-wine just as it is in the production of any food-grade products. Honey that has gone bad, picked up bad bacteria or infection, or otherwise deteriorated will not produce good quality honey-wine. Good honey-wine calls for the utilization of good quality honey. If the product is already being consumed in the country, in some form or another (mainly for its medicinal properties), then it could be worthwhile to work with industry to develop or upgrade the sector to offer consumers a better, cleaner, and safer product, with attractive bottling. This would help open the channel to create more demand for smallholder honey.

In addition to table honey and honey-wine, the opportunity to tap the hospitals or pharmaceuticals market, as well as supply the many Cambodian hotels and restaurants remains wide open. Cambodia's institutional-buyers most likely purchase honey for their customers either through local supermarkets or import finished products (packaged units) from Thailand, Malaysia, and China. If, on the other hand, the hotels and restaurants are not offering honey as an alternative to its selection of sweeteners to accompany beverage-packs, then the window of opportunity to pick up the market share exits. In addition to the hospitality industries, schools are also appropriate institutional buyers of value to honey processors. If not yet, then they should be evaluating this opportunity since honey in creative packaging (such as honey sticks. Honey sticks are straws filled with flavored honey) provides a great alternative to candies and sweets that are more favorable to the dental health of school-going children. However, that said, this segment too requires that good quality honey be produced before packaging in hotel/restaurant sized packets. Food safety and product quality will be paramount when producing for this market. Consequently, quality management and quality assurance systems will be a fundamental necessity in the entire production process. Once quality honey is produced, investing in competitively-priced packaging machines that can produce hotel/restaurant/school sized packets for this market can be profitable. Expansion of sales in this market segment can help "pull" production from rural areas.

In many developed and developing countries, honey is widely used as a product to speed up the process of healing, especially, for burn victims. Honey is a natural healing agent and increasingly more modern hospitals and burn centers in many countries are increasing their utilization of honey to heal bed sores and other skin problems. As a result, burn-units within some hospitals, for example in the Middle East, as a practice purchase good, clean honey on an annual basis. While data on annual utilization of honey by hospitals was not easily available in Cambodia, it provides another pathway to increase "market pull" for honey produced by smallholders.

Another attractive near/mid-term potential market within reach for the industry is the tourist market. The spell-binding magic of Cambodia evidently lures, every year, over 2 million tourists with reasonable money to spend. Some of them never return to their country, mesmerized by a mixture of charm, simplicity and discovery. Tapping this market to create a "market pull" for wild honey for inclusion into gift packs and fancy foods targeting expatriates and tourists would contribute significantly to enhance the honey sector. However, as required in any other food industry, here too, food safety and hygiene will be of vital importance. Product and process quality control management and quality assurance will be critical, as will packaging, for success in penetrating this market. If the industry can assure honey quality, reliability, and volume, then honey processors should embrace this market segment.

5 MARKETING STRATEGY: OPPORTUNITIES AND OPTIONS

Cambodia offers an array of “low hanging fruits” for businesses engaged in honey marketing and sales. The common refrain from supermarkets in Phnom Penh was that there were not enough suppliers of honey in the country. This supply gap has driven supermarkets to import a sizable quantity of honey from countries such as Thailand, China, Malaysia and Australia among others. With demand at the “door-step,” supermarkets and convenience stores in cities such as Phnom Penh represent a primary or principle opportunity for honey processors. Engaging an import substitution strategy (in an openly competitive environment and without leaning on protectionist policies) to move into domestic markets by claiming market share away from Thailand, China and the like, as a FIRST step, would stimulate the honey sector. However the industry’s import substitution strategy must be viewed as a temporary strategy; as a precursor, to strongly and positively contribute to the industry’s eventual export orientation. An export-led approach is the ultimate end-game to boost growth, foreign-exchange earnings, and assure sustainability. However, such a strategy requires improvements that the honey value chain at present is unable to sustain. That said, export markets remain an attractive option, but success will depend largely on the industry’s ability to produce quality, safe, competitively priced, attractively packaged (if targeting export retail outlets) commercial volume.

To successfully increase domestic market share, particularly within the supermarkets, the industry will require a marketing strategy that supports this vision. The marketing strategy that is proposed (and illustrated in figure 5 in the next page) should lead industry closer to the goal if the industry commits to moving toward it seriously. The marketing strategy is based on a value-chain approach that hopes to result in strongly boosting honey production. After all, honey production and consolidating sufficient marketable quantities have been the biggest handicap to the growth of the country’s honey sector.

As indicated under section three, there are constraints and impediments that influence how much honey is harvested and made available in the market. Such situations provide the perfect opportunity to apply a value chain approach as it helps address problems arising from a lack of willingness, communication, and understanding among supply chain participants to deal with issues from an interdependent perspective. Value chain approach underscores interdependence and emphasizes working with all those that have direct and indirect role and responsibility for the efficient flow of the product from start to end. As such, it is important at the outset to identify as many actors and service providers as possible that have a role in moving honey from production to sale. Figure 5 lists the major support services necessary for success of the honey subsector given that any efficiency gains they can achieve should have some effect on costs to those that depend on their services.

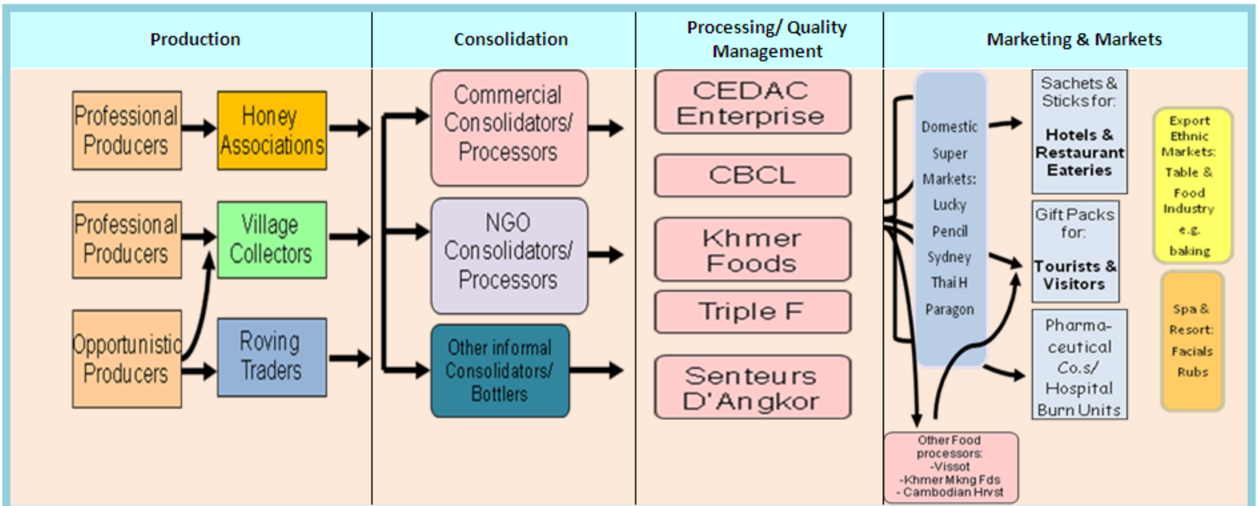
Embracing a value chain approach also requires a refocus on supply chain conduct, moving away from profiting by squeezing supplier margin, to a consideration on improving inefficiencies and increasing productivity within and across processes to lower costs, increase competitiveness, expand sales, and enhance category growth to ultimately gain from increased profit. When factors contributing to subsector inefficiencies and ineffectiveness are dealt with as an industry, significant gains can be had. To succeed in meeting domestic demand and claiming a share of the supermarket honey sales requires that industry work together as a unit to strategically address these challenges and opportunities. Such a paradigm, however, would involve partnership, collaboration and a commitment to growth by value chain actors and players.

An “industry roundtable” would provide such a platform to bring together key leaders from across the honey and food supply chains (from honey processors, food processors, food product distributors, packaging companies, transporters, to NGOs who are active in community mobilization and relationship-brokering) to initiate the process of fostering relationships. This forum would also provide the chance to share with industry, information on emerging honey business opportunities, market requirements, honey production status and trends, and supply chain challenges. In addition, it would be the best place for MSME to help industry understand how their partnership with honey harvesting communities can assist in strengthening the links between wild honey commercialization and conservation in order to safeguard biodiversity and habitat loss. Those companies who are eco-friendly and see the business value in investing time and effort in helping rejuvenate and strengthen the honey sector could form a preferred-buyers network/group to gain from partnerships with upstream players.

Commercial partnerships or market linkages can benefit both parties. Such linkages offer the processors or buyers the chance to increase their supply volume and benefit from scale without the associated capital investment. Honey producers on the other hand also gain, from access to not only ready guaranteed markets, but also to sources of technical assistance, technology transfer and sometimes even credit. The proposed marketing strategy emphasizes establishing commercial linkages between Cambodia's honey producing communities and the preferred buyers' network to help accelerate honey production.

Similar efforts are already underway in some areas in Cambodia, but there is need to escalate it further, beyond the present list of one buyer: *CEDAC Enterprise*. Others such as CBCL, Khmer Foods, Triple F, Senteurs D'Angkor, as well as other food processors (for whom adding honey as a product line would entail marginal cost) need to be invited to the table to reinforce the "market pull." When such direct relationships through business linkages are fostered (facilitated initially by NGOs between honey producing communities and business), they have the potential to raise the level of the value chain itself, while helping mainstream Cambodia's honey hunters into formal enterprise and trade.

FIGURE 5: WILD HONEY MARKETING STRATEGY FRAMEWORK



Key Support Services and Targeted Technical Interventions			
- Extension & Technical Services - Village-Based Honey Associations - NGO Services for Association development	- Financial Services - Transport Service - Storage Technology	- Technical/Technology - Packaging - Financial Services	- Standards and Grades - Regulatory - Communication & Promotion services
- Rafter construction training to increase number per household through community trainers - Producer Mobilization & Producers Association Development Training. - Business Training (e.g. record keeping) - Training on Harvesting and Extraction - Link communities to local business service providers (BSP) i.e. Trainers on Rafter Construction & Beekeeping - Develop a cadre of these BSPs to speed up rafter expansion program - Village level Honey Quality Improvement.	- Quality Grading Training - Honey Storage technology & practices Improvement - Increase Linkages to preferred buyers and BSPs - Linkages to financial services for consolidators/traders to buy large volumes of honey - Business and Management Training for traders/consolidators - Training on how to develop sales agreements and enforce contracts	- Increase processing efficiency - Improve access to modern, cost effective processing technology - Training on honey quality improvement and compliance - Improve packaging materials and labels - Develop vision and strategy for industry to move the sector forward - Introduce consumer-friendly pricing strategy – lower price.	- Develop honey quality standards for industry - Establish Linkages to supermarkets - Expand sales promotion at key places such as supermarkets. - Encourage product development, sachets, sticks, honey wine, etc. - develop linkages to institutional buyers (hospitals, hotels, restaurants, schools) - review expansion opportunities in future domestic high-end markets such as spas, and export consumption markets (for table honey as well as bakers honey in the ingredients industry).

In addition to setting up commercial linkages to strengthen private sector role in the wild honey sector, there is need for targeted technical interventions at all levels of the value chain. The inefficiencies and constraints that presently exist within the supply chain leave much room for improvements. Taking a value chain approach to address these constraints and inefficiencies will allow principle areas to be prioritized for targeted technical assistance.

Cambodia's honey sector has been receiving technical assistance from a string of donors and NGOs in the past. For example, GTZ, NZAID, the International Tropical Timber Organization, NTFP-EP, and Community Forestry International are some that have actively provided support at some point in time or other. CFI and NTFP-EP continue their support, as do WWF and Bethany Cares[13]. However, many of these organizations have generally tended to concentrate their assistance on one level or group. Furthermore, many of them have tended to take a supply side approach, focusing their attention on mainly production issues in the communities and villages where they work. In instances where support has included marketing and logistics, the NGOs themselves have frequently taken up the role of the service providers to fill the void. It must be noted, however, that more recently, some NGOs are beginning to slowly move back to their facilitation role in project areas where the private sector service providers have begun to slowly pick up their functions.

The facilitative role that NGOs play is important particularly at the community and village level for producer mobilization and group/association formation. To date, the organizational development support provided by NGOs have proven successful and needs to be further strengthened by including business and association management training as well. Training on rafter construction and beekeeping would best be carried out by locally-based business service providers (BSPs) who charge a fee to train community members. Procurement of village level services from BSPs would contribute positively to building a cadre of rural entrepreneurs selling technical support, resulting in a stronger private sector and increased number of "rafters."

In other segments or levels of the value chain too, development is better served by directly engaging the private sector rather than taking on their role. This is particularly pertinent for the marketing segment of the value chain. The pursuit of market linkages through linkage creation between communities and "preferred buyers" is happening, for example in Srae Ambal, where *CEDAC Enterprise* has a direct link to the Prang community of honey hunters. But this is not a widely prevalent practice yet in Cambodia. For example, there are other areas where the buying function is also being carried out by NGOs. Technical assistance is best when it is implemented in a manner which strengthens and builds local capacity in order to help, for example, rural entrepreneurs to unleash their commercial potential. Development assistance providers should tap this potential to help them add value, rather than crowding them out.

With domestic demand strong, the wild honey marketing strategy should incorporate a staged approach, with the first stage involving the identification of those principle constraints or key issues holding the industry and firms back from taking full advantage of opportunities. These constraints and challenges should be first targeted to receive intervention in order to help unlock bottlenecks present at all levels, from production to processing and marketing. By supporting upstream production as well as downstream processors, the industry can be strengthened and transformed into a more organized and coordinated commercial sector contributing to an equally strong "market pull" for wild honey from the country's rural supply-bases. When "market pulls" are strong and steady, communities generally respond by producing consistently, making it easier to help producers shift to a more commercially-oriented operation or "business."

The recent honey pricing strategy applied by some buyers has stimulated producer interest in many honey hunting communities. However, for the present pricing strategy to be sustainable, many things need to come into place. At present, village level honey hunters associations capture 76.79% of the

[13] Andrew McNaughton and Meang Sotha, May 2009. Op.cit.

consumer price (supermarket retail price of $7.2 per 425 ml bottle translates to US$11.89 per kg) for very little value added. Honey hunters or honey producers, receive 43.81% of US$9.13 per Kg, which is what associations receive from processors. In other words, the producer price of US$4 per Kg translates to producers capturing 33.64% of the consumer price, which by food manufacturing standards is on the high side for a low value added product. This pricing principle is based on a high-price, low volume approach. For producers to gain financially on a long term basis, volume on a household basis will have to increase. Technical interventions designed to help producers expand their production base and for honey producers association to increase productivity and efficiency to lower costs will be critical.

Figure 5 above presents several key technical interventions that will be necessary across the honey value chain to boost the sector to meet market demand. Honey Quality tops the list of targeted technical assistance desperately needed at all levels of the value chain. Since quality begins in production, producers require training in quality management, followed by honey producers association and consolidators who damage honey quality by improper handling/storage and usage of inappropriate storage materials. At the processor level too, improving and preserving quality is severely lacking. Quality control and quality assurance systems need to be in place at processing facilities to safeguard food safety.

In addition to product quality, processors need other firm level assistance. Help with identifying better and cheaper packaging materials should be part of stage one activities since addressing this issue has the potential of making an immediate difference. For example, at present, one processor's packaging and labeling cost amounts to almost 8% of the retail or consumer price. Procuring cheaper sources of packaging materials such as migrating from glass to PET jars can save as much as 25% on bottle cost alone. Labeling cost can be further reduced by finding more creative but competitively priced designers who can help sell the product with improved designs.

Given that Cambodian honey is "pricey" and is viewed by both retailers and consumers to be "expensive," there is need for processors to lower their product price by first increasing their own productivity and improving process efficiency. However, in an environment where the producer price is 33.64% of the retail price and the producer association's price captures almost 77% of the retail price, there is not much room for lowering processing costs. Although, this is an area that requires serious consideration, it is an item that should be dealt with in stage two: stage two would cover those important technical areas that need to be addressed but can wait for some time.

Processors however need to immediately address the cost issue by offering consumers alternative sizes to help make Cambodian honey more accessible. For example, CEDAC honey is sold in only one size: jars that are 425 ml or 606 gm. Making honey available in smaller jars, for example 350 gm (the most popular size), would help consumers afford Cambodian honey and also help move the product off the shelf faster. Smaller sized bottles sold at a lower price would encourage sales growth, which in turn would increase demand from honey producers.

Expanding into other packaging shapes and sizes to penetrate other market shares will depend on the marketable volume that can be made available by the producers. Until volume reaches a level that makes business sense to processors, expansion into other market segments will be slow in coming. These are some areas that can be addressed under stage two. Figure 5 details some key interventions that the industry can consider to help the sector spring into action.

As in any other business sector, the honey sector too is constrained by lack of access to affordable finance. Finance, particularly at the consolidator and processor levels, is crucial since access to, for example, trade finance can encourage transactions to occur with more certainty and markets to be exploited more consistently. Opening affordable trade finance opportunities for this sector would contribute significantly to unlocking financial bottlenecks experienced by all actors in the honey value chain.

As mentioned, Figure 5 offers various technical interventions and ideas to address many of these constraints and challenges facing the honey value chain. The implementation of some or all of the suggested ideas can contribute to the industry's competitiveness, profitability, and attractiveness to prospective entrepreneurs and investors.